99-D-132, Nuclear Materials Safeguards and Security Upgrades Project, Los Alamos National Laboratory, New Mexico

(Changes from FY 2000 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

·Addition of a collective protection system in the scope of NMSSUP Phase I.

·External independent project review and associated actions delayed the project start from November 1998 to September 1999.

·The project TPC, schedule and funding profile has changed to reflect the scope addition and start delay.

1. Construction Schedule History

	Fiscal Quarter					
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	Total Estimated Cost ($000) [a]	Total Project Cost ($000)
FY 1999 Budget Request	1Q 1999	1Q 2001	3Q 2000	3Q 2004	60,746	70,920
FY 2000 Budget Request *(Preliminary Estimate)*	2Q 1999	1Q 2001	3Q 2000	3Q 2004	60,746	70,920
FY 2001 Budget Request *(Current Baseline Estimate)*	4Q 1999	2Q 2002	4Q 2000	4Q 2005	61,143	74,634

[a] TEC and Financial Schedule reflects Phase I only. Future cost estimates and funding profiles will be completed as part of future conceptual design efforts.

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
1999	9,700	9,700	0
2000	11,257 [a]	11,257	8,600
2001	18,043	18,043	11,600
2002	9,600	9,600	19,480
2003	5,400	5,400	9,520
2004	7,143	7,143	7,000
2005	0	0	4,943

3. Project Description, Justification and Scope

The Nuclear Material Safeguard and Security Project (NMSSUP) replaces the existing Los Alamos National Laboratory (LANL) security system, addresses Special Nuclear Material (SNM) facility requirements, and addresses malevolent vehicle threats at key nuclear facilities. Assessments of the LANL safeguards and security system have identified numerous system deficiencies due to aging equipment and outdated technologies. The NMSSUP will provide a reliable safeguards and security system to ensure the protection and control of SNM, classified matter, and Departmental property supporting current missions at LANL.

The NMSSUP is separated into multiple phases to accomplish the project goals. Phase 1 will provide for the replacement of safeguard and security control systems (computers/ communications links, etc.) and modification of related facilities. Later phases will replace the Perimeter Intrusion Detection and Assessment System (PIDAS) and interior alarms at two key nuclear material facilities. Future phases will protect classified parts, upgrade other facility alarms and replace the site-wide fire alarm system.

This project is to provide necessary upgrades to the existing Laboratory-wide security systems to bring them into compliance with DOE Order 5632.1C and to address deficiencies cited in the Los Alamos National Laboratory (LANL) Site Safeguards and Security Plan (SSSP). The systems being upgraded have been in operation for up to 14 years, have exceeded their useful design life, and are in need of replacement. Funding is required to continue safe, secure, economical operation of the Laboratory.

Phase 1

A new security system will be installed to include multiple host computers, operator interface consoles, upgrades to existing facilities, and a dedicated communications trunk. Existing facilities will be upgraded to serve as a Central Alarm Station (CAS) and Secondary Alarm Station (SAS) which will house the host

[a] Original appropriation was $11,300,000. This was reduced by $43,000 for the FY 2000 rescission enacted by P.L. 106-113.

computers and security monitoring personnel. To support the transition of the TA-55 local assessment facility for operation as the new CAS, an un-staffed assessment console room at TA-64-1 will be provided. Additional detail is provided below.

Control System

The project will replace the existing Laboratory security system; (Basic Rapid Alarm Security System (BRASS)), computers and software with Argus, a security system provided by Lawrence Livermore National Laboratory (LLNL). The CAS and SAS will be reconfigured, and minor remodeling of the badging office will be performed to accommodate Argus enrollment stations.

Facilities

CAS (TA-55-142) will be upgraded to house the host system computer and new operator consoles. A small utility building will be constructed to accommodate facility support equipment, and provide space for supervisory personnel.

SAS (TA-3-440) will be upgraded to house the host system computer and new operator consoles. A small utility building will be constructed to accommodate facility support equipment. Limited Area fencing and barricades will be installed to enclose the SAS to provide proper security. This facility will also house the training console to support the Argus system.

- A collective protection system has been added to the CAS & SAS to protect the buildings against infiltration of aerosol and gas incapacitating agents.

The Central Guard Facility at TA-64-1 will be upgraded to house a new un-staffed assessment console to support the transition of the TA-55-142 local assessment room to operation as the CAS.

Communications System

A new fiber optic communications network will replace the existing telephone circuits connecting the security control computers to the field concentrators. Phase 1 will install the portion of the communications system that connects the new host computers to the security concentrators at LANL's Category I SNM facilities TA-55 and TA-18. In addition, the communications circuits needed to connect the computers in the CAS, SAS, and the assessment console room will be installed in Phase 1. Because Phase 1 involves installing fiber-optic bundles from the CAS and SAS, those bundles will be sized with adequate capacity in Phase 1 to accommodate the number of fibers needed to support future Phases.

Project Milestones:

Critical Decision 2	4QFY99
Date A/E Work Initiated	4QFY99
Date title II Completed	2QFY01
Critical Decision 3, Controls and Communications System	3QFY00
Critical Decision 3, Facilities	3QFY01
Date Physical Construction Starts	4QFY00
Date Construction Ends	4QFY05
Critical Decision 4	1QFY06

4. Details of Cost Estimate

	(dollars in thousands) Current Estimate	Previous Estimate
Design Phase		
Preliminary and Final Design costs (Design Drawings and Specifications)	4,063	4,930
Design Management costs (3.2% of TEC)	1,963	1,200
Project Management costs (3.9% of TEC)	2,409	800
Total Design Costs (13.8% of TEC)	8,435	6,930
Construction Phase		
Improvements to Land	364	5,625
Buildings	8,059	6,964
Special Equipment	17,027	21,540
Standard Equipment	4,348	0
Inspection, Design and Project Liaison, Testing, Checkout and Acceptance	1,926	4,290
Construction Management (3.1% of TEC)	1,904	2,136
Project Management (3.0% of TEC)	1,830	5,261
Total Construction Costs (58% of TEC)	35,458	45,816
Contingencies		
Design Phase (4% of TEC)	2,450	1,050
Construction Phase (24.2% of TEC)	14,800	6,950
Total Contingencies (28.2% of TEC)	17,250	8,000
Total Line Item Costs (TEC) [a]	61,143	60,746

5. Method of Performance

Engineering, design and inspection will be accomplished under a negotiated architect-engineer (A-E) contract. Construction and procurement will be accomplished by fixed-price contracts awarded on the basis of competitive bidding. The computer system will be procured and installed through a cooperative agreement with Lawrence Livermore National Laboratory.

[a] Escalation rates taken from FY 1999 DOE escalation multiplier tables. TEC/TPC and Financial Schedule reflect Phase I only. Phase 2 will be completed as part of a future project.

6. Schedule of Project Funding

	(dollars in thousands)					
	Prior Years	FY 1999	FY 2000	FY 2001	Outyears	Total
Project Cost						
Facility Cost						
Design	0	0	4,620	2,950	3,315	10,885
Construction	0	0	3,980	8,650	37,628	50,258
Total, Line item TEC	0	0	8,600	11,600	40,943	61,143
Total Facility Costs (Federal and Non-Federal)	0	0	8,600	11,600	40,943	61,143
Other Project Costs						
Conceptual design cost	1,075	0	0	0	0	1,075
NEPA documentation costs	50	0	0	0	0	50
Other ES&H costs	5	50	75	110	840	1,080
Other project-related costs	1,245	1,578	871	1,110	6,482	11,286
Total, Other Project Costs	2,375	1,628	946	1,220	7,322	13,491
Total Project Cost (TPC)	2,375	1,628	9,546	12,820	48,265	74,634

7. Related Annual Funding Requirements

	(FY 2004 dollars in thousands)	
	Current Estimate	Previous Estimate
Annual facility operating costs	1,874	1,874
Annual facility maintenance/repair costs	902	902
Utility costs	59	59
Total related annual funding (operating from FY 2004 through FY 2023)	2,835	2,835